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Tips for Teaching Practical Skills

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Introduction

This article is the fifth in the series 'Top Tips for Teaching', which aims to provide veterinary surgeons and nurses with handy, relevant tips for teaching students, colleagues or clients whilst in practice. Previous articles have covered topics such as providing feedback, teaching in small groups, and fitting teaching into a working day. This article focuses on teaching practical skills and draws from the authors' experiences teaching in veterinary practice and in Clinical Skills Laboratories (CSLs), as well as literature from medical and veterinary educational research.

The importance of practical skills

Section C1 of the Royal College of Veterinary Surgeons' Day One Skills covers practical skills in which veterinary graduates should be competent and there is now a greater emphasis on practical skills in veterinary education. CSLs are commonplace in veterinary schools and are used as a place to teach, practise and assess a variety of skills. Furthermore a large section of the postgraduate Professional Development Phase is devoted to practical skills. It is therefore likely that during their career, the majority of veterinary surgeons will be involved in teaching practical skills to students and junior members of the profession. Teaching skills are directly relevant to training veterinary nursing students, and also in teaching clients new techniques such as sub-cutaneous injection. This article aims to provide relevant tips that are applicable to many veterinary teaching scenarios.

Tips

1) Create a stress-free environment

Students are often nervous about learning practical skills; they don't want to make a fool of themselves, worry about adverse effects on the patient, and realise that it would be quicker for you to perform the technique yourself. When choosing appropriate situations, also try to create a relaxed environment, with minimal distractions; learning is more effective in a calm and safe environment. Comments such as "no question is a stupid question" can help set the tone.

2) Place the practical skill in context

It is important that the student realises the relevance and importance of this particular skill. For example, when teaching how to tie surgical knots, it is important that the student realises that they will need to be able to ligate vessels in many surgeries they perform, or if teaching an owner how to inject a diabetic dog, that they know they will need to inject the dog at least daily as part of the treatment protocol. It can also be helpful to state the aim of the skill, and consequences of getting it wrong; whilst this may be very obvious to an experienced veterinary surgeon, it may not be to the student. Explaining the context should highlight the importance of learning the skill.

3) Visualise the final product

For some skills, visualising the 'end product' can provide something to aim towards, and help direct the steps throughout a skill. For example, when teaching how to position for radiography, showing a

correctly positioned and collimated radiograph may help the student to position the animal and set up the radiography equipment.

4) Break the skill into manageable steps

An expert's knowledge and practical abilities become automated, and it can be difficult to break a skill into a series of steps; the classic example of this is learning to drive. Try to break the skill down into small steps (example in box 1). This should help avoid overwhelming the student and help to elucidate your tacit knowledge.

5) Demonstrate the technique

This allows you to show the student all the steps involved in the practical skill and the order. Where there are limited opportunities to perform the skill, it may be better to refer the student to another resource, such as an online video, although the accuracy of these should be checked beforehand. Be aware that some students will struggle to take in all the available information when the steps are verbally described during a demonstration (i.e. combined audio and visual information). These individuals may find it easier to take in the information if you demonstrate the skill twice, the first time without talking and the second with a verbal commentary explicitly stating what each hand and the fingers are doing at various stages of the task.

6) Ask the student to repeat the steps back to you

This forces the student to process what they have seen and heard, and consolidates the information in their mind. This also allows an opportunity for you to correct any misunderstandings, such as missed or incorrect steps, or steps outlined in the wrong sequence.

7) Observe the student performing the skill

Particularly in live patients, students may be nervous about performing the technique for the first time. Reassure them that you will observe, you will not allow them to make any dangerous mistakes, and will be able to step in if needed. This will give the student confidence to proceed with the skill.

8) Offer constructive feedback

It is often useful to encourage the student to reflect on how well the task went and what needs to be improved, and then offer constructive feedback as discussed in [ref other article]. Try to tailor comments to the stage of learner and to indicate specific areas for improvement.

9) Encourage practice

You could direct the student to other resources or ways of practising; this may be at home on models or props, back at the university's CSL, or you may be able to offer further opportunities for supervised practice.

10) Discuss alternative methods

For many practical skills in veterinary medicine, different practitioners have different ways of performing the skill; everybody finds a method that works for them. Ensure the student knows that there may be several correct ways of performing the skill; it may be useful to discuss the pros and

cons of each method, or why your chosen method works for you. Veterinary students often worry about seeing various techniques but it can help them to know that as long as they are competent in at least one version, this is fine.

Summary

Learning practical skills can be challenging, but by aiming to maximise each learning opportunity, and for experiences in CSLs, during extramural studies, and on rotations to complement each other, it is possible to optimise the learning experience for students. This should provide a more rewarding and enjoyable experience for both the learner and teacher.

Box 1: Example steps for sub-cutaneous injection

- 1) Attach a needle to a syringe, maintaining sterility
- 2) Draw up the correct volume for injection, removing air bubbles
- 3) Ensure the animal is adequately restrained
- 4) Tent the skin over the scruff (with your non dominant hand)
- 5) Hold the syringe and needle (in your dominant hand) and insert the needle
- 6) Draw back on the syringe (with your 3rd or 4th finger) to ensure you have not punctured a blood vessel
- 7) Inject the solution
- 8) Withdraw the needle and syringe
- 9) Dispose of the needle into a sharps bin, and syringe in the clinical waste bin

References/Further reading

DUVIVER, R. J., VAN DALEN, J., VAN DER VLEUTEN, C. & SCHERPBIER, A. J. (2009) Teacher perceptions of desired qualities, competencies and strategies for clinical skills teachers. *Medical Teacher* 31, 634-641

GEORGE, J. H. & DOTO, F. X. (2001) A simple five-step method for teaching clinical skills. *Family Medicine* 33, 577-578